

Work Order ID 124888

Thursday, September 25, 2014 1:09:15 PM

124888

Page 1

Item ID: D407-667-105RLC

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Fwd Crosstube - High 407

Stop

NS2

Start Date: 9/25/2014 Start Qty: 1.00

1

Cust Item ID:

Required Date: 9/25/2014 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan: MLJ

Date: 14-09-25

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D407-667-145	Rev C (DEO)
DSI9565	A
DSI9628	A

M.D.

100

Document Control

0.00

100

DOCUMENT CONTROL

DC

Memo

0.00

DAS
06
9-27

OCT 22 2014

MLJ 14-10-21

Doc.Control -USB or Paperwork

Photocopy bluefile and create labels as per PPP D407-667-105 CHG005

110

Packaging

0.00

110

Packaging

Memo

0.00

Packaging

JW 14-09-30

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Item ID: D407-667-105RLC

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Fwd Crosstube - High 407

Stop

NS2

Start Date: 9/25/2014 Start Qty: 1.00

1

Cust Item ID:

Required Date: 9/25/2014 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

0.00

120

BENDING MACHINE - CROSSTUBES

CNC Bend 2

Memo

0.00

CNC Alpha 160 Bender

Bend tube as per Dwg D407-667-145 using CNC bender program 407-fw

JW

14-09-30

130

QC15- Crosstube Dimensional Check

0.00

130

QC

Memo

0.00

Quality Control

DAS
03
9-29

DP

14-10-1

DB 1/4-2

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Item ID: D407-667-105RLC

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Fwd Crosstube - High 407

Start Date: 9/25/2014 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 9/25/2014 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***
Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140 *140* Crosstubes	Crosstubes	0.00				PSL		DAS 46 9-89	14-P-01
Crosstubes	<p>Memo</p> <p>***** ENSURE PROPER JIG POSITIONING BEFORE DRILLING***** VERIFIED BY: <u> </u> *****</p> <p>1- Drill holes & ream using drill Jig DT8541 & DT8542 as per Dwg D407-667-145. Drill all (3) top holes. Holes facing inboard.</p> <p>***** ENSURE PROPER JIG POSITIONING BEFORE DRILLING***** VERIFIED BY: <u> </u> *****</p> <p>2- Drill Fwd rivet holes using drill Jig DT8787 fwd as per Dwg D407-667-145. Note: Fwd side has 3x top holes. Facing inboard.</p> <p>3- C'sink holes as per Dwg D407-667-145. Allow rivet to sit below surface to compensate for paint.</p> <p>4- Flip tube and switch drilling Jigs from right to left, left to right. Locate Jigs off existing holes using "T" pins. Drill ONLY 2 top holes ONLY plug most bottom holes to prevent accidental drilling.</p> <p>***** ENSURE PROPER JIG POSITIONING BEFORE DRILLING***** VERIFIED BY: <u> </u> *****</p> <p>5- Drill holes and ream using drill Jig DT8541 & DT8542 as per Dwg D407-667-145. Drill only the top (2) holes.</p> <p>***** ENSURE PROPER JIG POSITIONING BEFORE DRILLING***** VERIFIED BY: <u> </u> *****</p>	0.00							

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Item ID: D407-667-105RLC

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Fwd Crosstube - High 407

Start Date: 9/25/2014 Start Qty: 1.00

1

Cust Item ID:

Required Date: 9/25/2014 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

6- Drill Aft rivet holes using drill Jig DT8787 aft as per Dwg D407-667-145.

7- C'sink holes as per Dwg D407-667-145. Allow rivet to sit below surface to compensate for paint.

8- Scribe part # and batch # using vibrating stylus as per Dwg D407-667-145
Inside of Cuff (Do not engrave on outside of tube)9- *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Debur
& Inspect for surface damage. Repair damage within limits as per Dwg D407-667-145**DAS
46
9-89**

14/10/02

150

QC5- Inspect part completeness to step on W/O 0.00

150

QC

Quality Control

Memo 0.00

*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***

**DAS
38
9-89****DAS
49
9-89**

14/10/06

160

0.00

160

HandFXtube

Memo 0.00

*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***

**DAS
41
9-89**

14-10-6

Hand Finishing Crosstubes

1-CLEAN CROSSTUBE WITH WASH'N WIPE

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Item ID: D407-667-105RLC Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Fwd Crosstube - High 407
 Start Date: 9/25/2014 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 9/25/2014 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180	Outsource process - NDT per QSI038 4.1	0.00							
180									
Outsource2	Memo	0.00							
Outsource process - NDT	*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** OUTSIDE SERVICE -CROSSTUBES Liquid Penetrant Inspection as per QSI 038 Or Issue P/O: <u>26038</u> LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order								
190	Packaging	0.00							
190									
Packaging	Memo	0.00							
Packaging	*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Inspect for transit damage Ensure copy of NDT results attached to work order.								
200	QC5- Inspect part completeness to step on W/O	0.00							
200									
QC	Memo	0.00							
Quality Control	*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Inspect for damage & ensure results are as per Dwg D206-667-145								

CH 14/10/07 @

1X SP 14-10-8

DAS
38
9-89

14-10-8

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Item ID: D407-667-105RLC

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Fwd Crosstube - High 407

Start Date: 9/25/2014 Start Qty: 1.00

1

Cust Item ID:

Required Date: 9/25/2014 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
204		0.00							
204									
HandFXtube	Memo	0.00							
Hand Finishing Crosstubes	*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***								
	1- PRESSURE WASH AND THEN USE WASH'N WIPE TO CLEAN CROSSTUBE BEFORE CHEMICAL CONVERSION								
206	QC7-Inspect Chemical Conversion Coat	0.00							
206									
QC	Memo	0.00							
Quality Control	*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***								

DAS
38
9-89

17-10-8

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Item ID: D407-667-105RLC

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Fwd Crosstube - High 407

Stop ***NS2***

Start Date: 9/25/2014 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 9/25/2014 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***
Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

210

210

SprayPaint

Spray Painting

SprayPaint

Memo

0.00

*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***

MASK AREA RPIOR TO PAINTING AS PER DWG AND DEO

1-Prime inside and outside crosstube as per QSI 005 4.2

2-Paint outside crosstube with White Imron as per QSI 005 4.2

PRIME BATCH: 130 128

Start Time: 11:06

Fininsh Time: 11:30

PAINT BATCH: 129977

Start Time: 12:06

Finish Time: 4:30

1 _____ CR 14-10-08

220

220

QC

Quality Control

QC14- Inspect Spray Paint

0.00

Memo

0.00

Then, Wrap in plastic bag to protect from scratches

1 _____ 14-10-16

DAS
38

9-89

DAS

51

9-89

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Item ID: D407-667-105RLC Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Fwd Crosstube - High 407
 Start Date: 9/25/2014 Start Qty: 1.00 *1* Cust Item ID:
 Required Date: 9/25/2014 Req'd Qty: 1.00 *1* Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
230		0.00							
230	Crosstubes								DAS
Crosstubes	Memo	0.00							41
Crosstubes									9-89
	INSTALL GROUNDING CLAMP AND SEAL WITH SIKAFLEX AS PER DWG AND DEO A/R SIKAFLEX BATCH: <u>130227</u> <u>exp 2/15</u>								14-10-9
	1-Abrade mating surfaces of support and crosstube with 180 grit sandpaper, clean the area with MEK or equivalent as per dwg								
	2-Install supports with Proseal 890 per D407-667-145 (DEO) and QSI 015 A/R Proseal 890 Batch: <u>130090</u> EXP: <u>1/15</u>								
	3-Install supports clamps Using Dt9565 as per Dwg D407-667-145 (DEO),Torque to 80-100 IN-LBS. PROSEAL CURE TIME 72 HOURS: Start: <u>14-10-9</u> Finish: <u>14-10-12</u>								
	4-Install nut plates as per Dwg D407-667-145. Touch-up rivet heads with Imron paint.								

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Item ID: D407-667-105RLC

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Fwd Crosstube - High 407

Start Date: 9/25/2014 Start Qty: 1.00

1

Cust Item ID:

Required Date: 9/25/2014 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240	QC5- Inspect part completeness to step on W/O	0.00							DAS 38 9-89
240									14-10-16
QC	Memo	0.00							
Quality Control	***RE-CHECK TORCQUE ON CLAMP AFTER PROSEAL HAS CURED FOR 72HOURS AS PER DWG.***								DAS 51 9-89
	VERIFY RESISTANCE AS PER NOTE 18 AND DWG DEO								
250	Pick Kit	0.00							
250									
Packaging	Memo	0.00							
Packaging									
260	QC4- 100% Inspect kits for completeness	0.00							
260									
QC	Memo	0.00							
Quality Control									

DAS
06
9-89

OCT 22 2014

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Item ID: D407-667-105RLC Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Fwd Crosstube - High 407
 Start Date: 9/25/2014 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 9/25/2014 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270	Packaging	0.00							
270						DAS			
Packaging	Memo	0.00				06		MLW	
Packaging	Identify and pack for shipping as per PPP D407-667-105					9-29			
	Location: _____								
	PPP Rev: _____								
280	QC21- Final Inspection - Work Order Release	0.00							
280									
QC	Memo	0.00							
Quality Control									

OCT 27 2014

14/10/28

4-10-28

Picklist Print

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Page 1

Work Order ID: 124888

124888

Parent Item: D407-667-105RLC

D407-667-105RI C

Parent Item Name: Fwd Crosstube - High 407

Start Date: 9/25/2014

Required Date: 9/25/2014

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 14.09.24 NEW ISSUE II VERF:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D206-667-017

Manufactured No

Each 9.0000

1

DAS

D206-667-017

Ground Strap Installation

**

41

9-89

14-10-10

Location

Loc Qty

Loc Code

FG

2

102581

2

LG050

7

107968

5

97504

2

AN5-32A

Purchased

No

250

Each

271.0000

4

4

AN5-32A

Bolt

**

DAS

28

9-89

OCT 21 2014

Location

Loc Qty

Loc Code

ST336

271

124215

80

m127363

4

m128403

66

m128634

121

D407-667-105TRN

Manufactured

No

110

Each

5.0000

1

1

D407-667-105TRN

Crosstube Turning Detail

**

Location

Loc Qty

Loc Code

LG014

5

116476

1

120868

1

120869

1

120870

1

120871

1

① TW 14-09-30

Picklist Print

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Page 2

Work Order ID: 124888

124888

Parent Item: D407-667-105RLC

D407-667-105RI C

Parent Item Name: Fwd Crosstube - High 407

Start Date: 9/25/2014

Required Date: 9/25/2014

Start Qty: 1.00

Required Qty: 1.00

D2873-043

Manufactured No

230

Each

44.0000

2

2

D2873-043

Nut Plate Assembly

CR 14.10.08

Location

Loc Qty

Loc Code

LG052

44

107964

4

113050

32

114550

8

2

D2873-045

Manufactured No

230

Each

47.0000

2

2

D2873-045

Nut Plate Assembly

CR 14.10.08

Location

Loc Qty

Loc Code

LG052

47

113144

7

113886

40

2

D2891-1

Manufactured No

230

Each

34.0000

2

2

D2891-1

Support 2.25

DAS

41

9.89

14-10-9

Location

Loc Qty

Loc Code

FG

2

84164

2

LG014

22

113044

1

114948

21

2

LG052

10

120972

10

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Shop Packet Print

Page 2

Picklist Print

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Work Order ID: 124888

124888

Parent Item: D407-667-105RLC

D407-667-105RI C

Parent Item Name: Fwd Crosstube - High 407

Start Date: 9/25/2014

Required Date: 9/25/2014

Start Qty: 1.00

Required Qty: 1.00

D3595-063-395

Manufactured No

230

Each

217.0000

4

4

DAS

D3595-063-395

Rubber Cushion

41

9-89

14-10-9

Location

Loc Qty

Loc Code

FG

5

87353

5

LG051

212

110958

6

114243

6

115027

100

115737

100

4

MS21920-20

Purchased

No

Each

223.0000

4

DAS

MS21920-20

Clamp

41

9-89

14-10-9

Location

Loc Qty

Loc Code

FG

2

122254

2

LG050

221

m126266

1

m127225

4

m128429

1

m128650

215

4

Picklist Print

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Work Order ID: 124888

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Parent Item: D407-667-105RLC

D407-667-105RI C

Parent Item Name: Fwd Crosstube - High 407

Start Date: 9/25/2014

Required Date: 9/25/2014

Start Qty: 1.00

Required Qty: 1.00

MS20601-AD4W10

Purchased

No

230

Each

507.0000

14

14

MS20601-AD4W10

CR 14, 10.08

RIVET

Location

Loc Qty

Loc Code

LG050

432

M127301

30

M127578

2

M128594

100

M128701

300

LG051

75

M128718

75

14

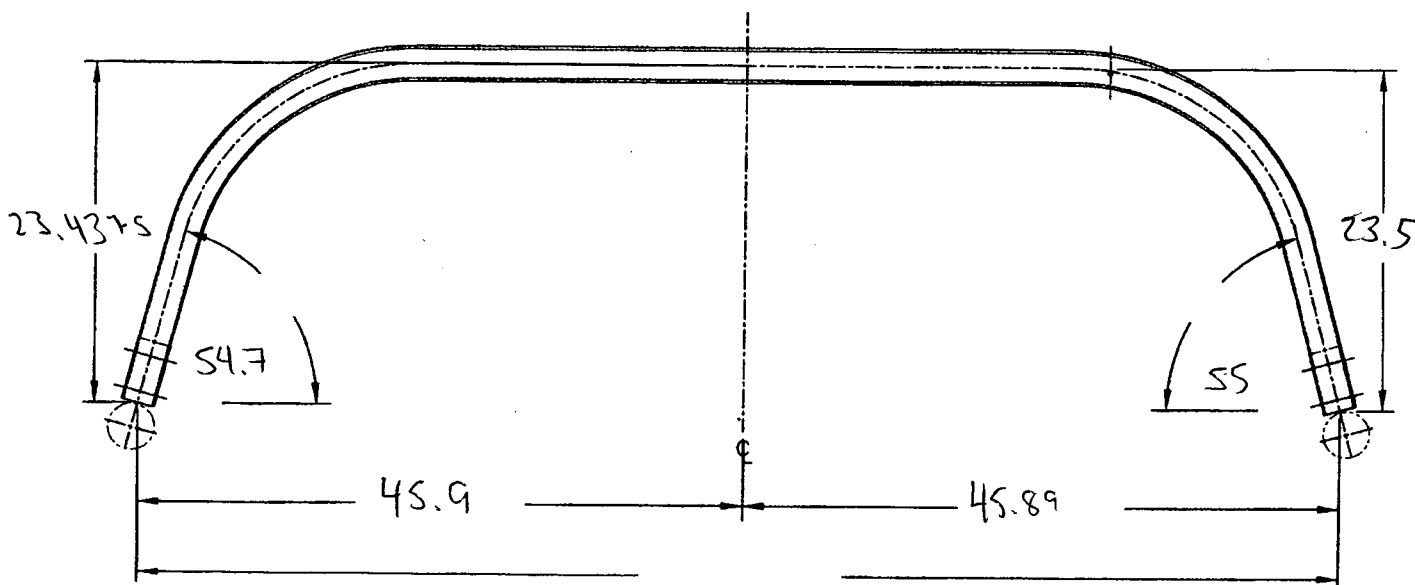
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Shop Packet Print

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DART AEROSPACE LTD		Work Order:	124888
Description: Crosstube High Fwd (407)		Part Number:	D407-667-105
Inspection Dwg: D407-667-145 Rev: C		Page 1 of 1	

Required Dimension	Min	Max
Height	23.41	23.67
1/2 Span	45.81	46.07
Angle	54	56
Total Span	91.62	92.14
Bending Passes	6	--
Crushing	--	6%



	Side A	Side B
Bending Passes	13	15
Crushing	5.2%	5.6%
Comments		

DAS
03
9-89

QC15 Inspection	14-10-1
Date	

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	09.11.12	Dimensions updated per Dwg Rev C	KJ	
C	12.04.16	Added bending, crushing dimensions	KJ	
D	12.10.30	Revised Total Span dimensions & Dwg Rev	KJ	

DART SERVICE INSTRUCTION

TO AMEND INSTRUCTIONS FOR CONTINUOUS AIRWORTHINESS ICA-D206-667 Rev. 3 OR LATER
REF. CANADIAN STC: SH01-5
REF. FAA STC: SR01304NY
REF. EASA STC: EASA.IM.R.S.01179

PURPOSE:

The supports on the following crosstubes are now installed using Proseal instead of Magnobond:

D206-667-101 @ CHG 004
D206-667-103 @ CHG 005
D206-667-107 @ CHG 002
D206-667-201 @ CHG 004

D206-667-203 @ CHG 004
D206-667-207 @ CHG 002
D407-667-105 @ CHG 004

CHANGE:

For the crosstubes listed above, section 32.4 of ICA-D206-667 is amended as follows. Use Figures 32-4 to 32-8 of ICA-D206-667 for further reference. For crosstubes of an earlier change number, it is recommended that if the supports are removed, the supports should be reinstalled using the procedure listed below.

32.4 SUPPORT INSTALLATION



- 32.4.1 Locate the area on crosstube for installation of support (ref. Figures 32-4 to 32-8 of ICA-D206-667). For D206-667-101/-103/-107/-201 and D407-667-105 crosstubes, the outward face of the support tabs should be 13.08" (332mm) from the crosstube center. For D206-667-203/-207 crosstubes, the outward face of the support tabs should be 10.03" (255mm) from the crosstube center. Ensure paint finish of crosstube is intact; touch up as required per Chapter 5 (5.3.9) of ICA-D206-667.
- 32.4.2 If present, remove any paint/primer on bottom of supports. Abrade mating surfaces of support and crosstube with 400-grit sandpaper. Saturate a clean cloth with MEK or 4105S Wash'n'Wipe Degreaser or equivalent and wipe until there is no residue.
- 32.4.3 Ensure a layer of 3M Scotch-Weld 2216 B/A Epoxy Adhesive is on the bottom of the support. If required, either apply or touch-up support to have a 0.03" to 0.05" thick layer of adhesive over the entire mating surface. Allow supports to cure for 24 hours.
- 32.4.4 Abrade mating surfaces of support (after cure) and crosstube with 180-grit sandpaper. Saturate a clean cloth with MEK or 4105S Wash'n'Wipe Degreaser or equivalent and wipe until there is no residue.
- 32.4.5 Apply a 0.04" to 0.07" thick layer of Proseal 890 Class B or AMS-S-8802 Class B sealant underneath applicable support and install support.
- 32.4.6 Install the clamps opposite to crosstube support as shown in Figures 32-4 to 32-8 of ICA-D206-667. Install rubber cushions underneath each clamp around the bottom circumference of the crosstube up to the crosstube centerline. Torque clamps 80-100 in-lb (9.0-11.3 Nm). It is acceptable to use smaller or larger sized MS21920-XX clamps than those listed in ICA-D206-667, ensure that after torquing the clamps per this instruction, the nuts are in safety but not bottomed out.
- 32.4.7 Prior to installing crosstube on aircraft, allow supports to cure for 72 hours and recheck torque on clamps.

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: 
D. SHEPHERD (DE # 02)

DATE: 11.07.20
CERT. NO.: SH01-5
ISSUE NO.: 3

A	NEW ISSUE	CP	11.07.15
REV.	DESCRIPTION	BY	DATE
DESIGN	q	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	q		
CHECKED	ASS	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9565	SHEET 1 OF 1
APPROVED		TITLE	SCALE
DE APPR.		SUPPORT INSTALLATION CHANGE	NTS
DATE	11.07.15	COPYRIGHT © 2011 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D206-667 REV. D AND EARLIER AND
INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D206-667 REV. 3 AND EARLIER

REF: CANADIAN STC: SH01-5

REF: FAA STC: SR01304NY

REF: EASA STC: EASA.IM.R.S.01179

PURPOSE:

The purpose of this service instruction is to permanently add the D206-667-017 Kit to the DXXX-667-101/-103/-105/-107 Crosstube kits.

INSTRUCTIONS:

DXXX-667-101/-103/-105/-107 Crosstubes at CHG 005/006/005/003 (respectively) and later are supplied with the D206-667-017 Grounding Strap Kit installed per section 3.2 of IIN-D206-667 Rev. D.

WEIGHT AND BALANCE




There is a negligible weight change associated with the installation of this kit.

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: 
D. SHEPHERD (DE # 02)

DATE: 12.08.02
CERT. NO.: SH01-5
ISSUE NO.: 3

A	NEW ISSUE (REF CIR 12-3)	AJS	11.08.02
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED		DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9628	SHEET 1 OF 1
APPROVED		TITLE	SCALE
DE APPR.		GROUNDING STRAP INSTALLATION	NTS
DATE	12.08.02	COPYRIGHT © 2012 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

Item	Qty -145	Part Number	Description
1	X	D407-667-145	CROSSTUBE ASSEMBLY (407 HIGH FWD)
2	1	D6010-115	CROSSTUBE
3	2	D2873-043	NUT PLATE
4	2	D2873-045	NUT PLATE
5	2	D2891-1	SUPPORT
6	4	D3595-063-395	RUBBER CUSHION
7	4	MS21920-20	CLAMP (OR MS21920-21)
8	14	MS20601AD4W10	RIVET (OR NAS9302B-4-10)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299- 947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6010-115
FINISHED LENGTH = 113.20 ± 0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D407-667-145" AND BATCH NUMBER ON
INSIDE OF CUFF USING VIBRATING STYLUS.
- 7) WEIGHT: 17.8 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY,
TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 6 PASSES. MAXIMUM TUBE FLATTENING DUE
TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2891-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER
QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-20 CLAMPS (OR -21) WITH D3595-063-395 RUBBER CUSHIONS TO SECURE
THE D2891-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS
ARE LOCATED ON CROSSTUBE SUPPORTS.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE
OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS
SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT
LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN
SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 124 888 MJS
14-09-25

DEO ATTACHED

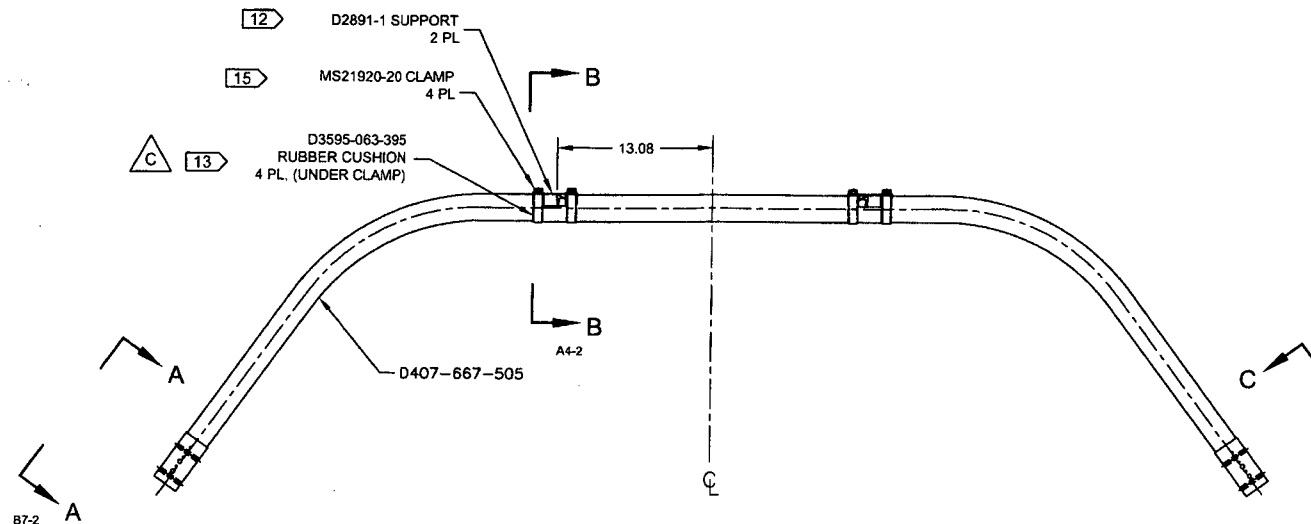
ECW #11-615
11.07.26

UNDER REVIEW

RELEASED
08/11/12 MJS

C	REVISE GENERAL NOTES/PART LIST (ZN D7-1); REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS. D3595-063-395 WAS D2856-400-694 (ZN D6-2 & A5-2); REMOVED REF. 7 ADD TOLERANCES (ZN C6-3, C4-3, D2-3); RELOCATED FLAG #6 (ZN A8-3) PER NCR 210; MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4.	RF	08.11.06
B	ADD HOLES AND NUT PLATES FOR COMPATABILITY WITH BHT/AA SKUDTUBES	PH	05.07.26
A	NEW ISSUE	CP	02.05.08
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF	DRAWING NO.	REV. C
CHECKED	RF	D407-667-145	SHEET 1 OF 4
MFG. APPR.	RF	TITLE	SCALE
APPROVED	RF	CROSSTUBE ASS'Y (407 HIGH FWD)	NTS
DE APPR.	RF	COPYRIGHT © 2002 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS REPAIRED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE REPRODUCED OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DATE	08.11.06		

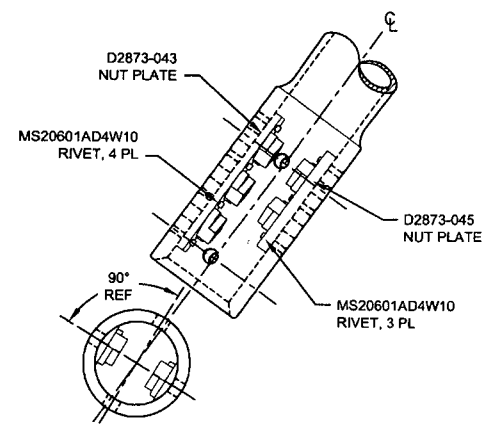
8 7 6 5 4 3 2 1



620 #11.615
11.07.28
UNDER REVIEW
07.06.13

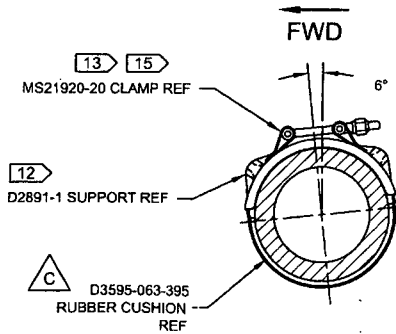
RELEASE
08/11/12

DEO ATTACHED

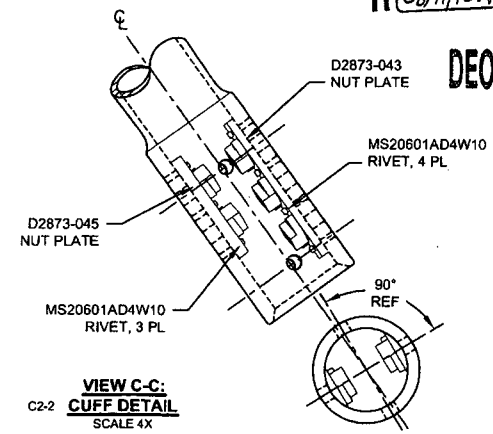


VIEW A-A:
CUFF DETAIL
SCALE 4X

D407-667-145
ASSEMBLY DETAIL
(VIEW LOOKING FWD)



SECTION B-B
SCALE 5X



VIEW C-C:
CUFF DETAIL
SCALE 4X

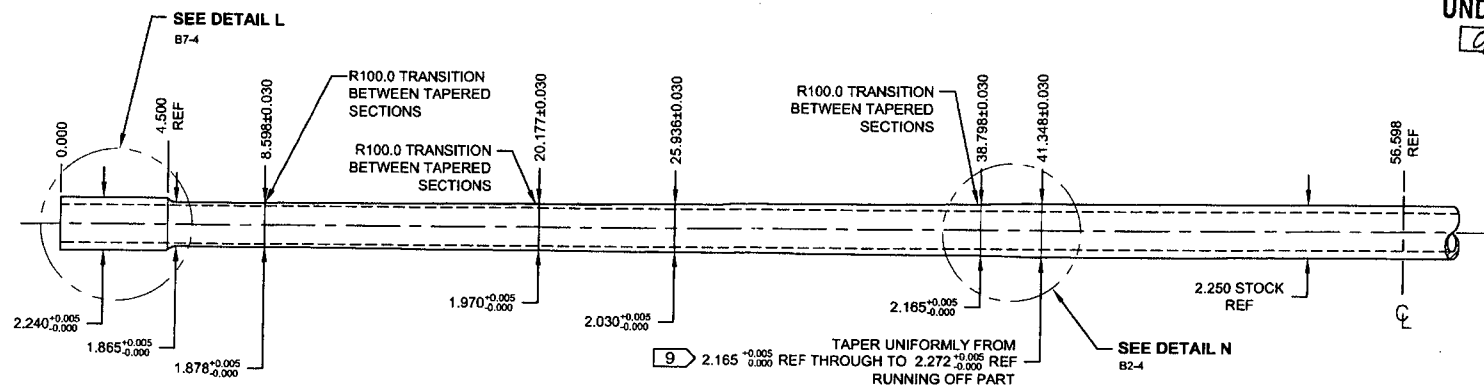
DESIGN	47	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	47	DRAWING NO.	REV. C
MFG. APPR.	47	D407-667-145	SHEET 2 OF 4
APPROVED	47	TITLE	SCALE
DE APPR.	47	CROSSTUBE ASS'Y (407 HIGH FWD)	NTS
DATE	08.11.06	COPYRIGHT © 2002 BY DART AEROSPACE LTD	
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UNDER REVIEW

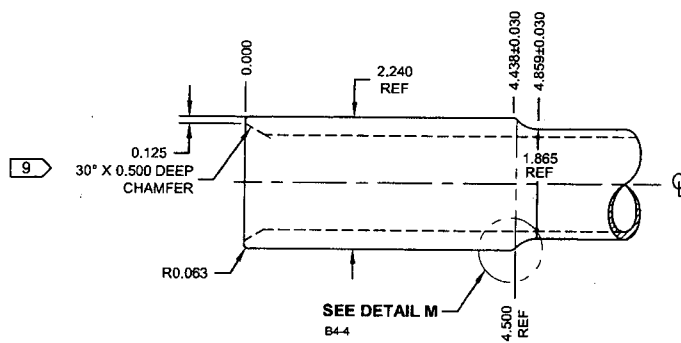
08/11/08 13

08/11/08 13

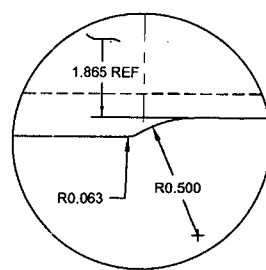
11.07.26



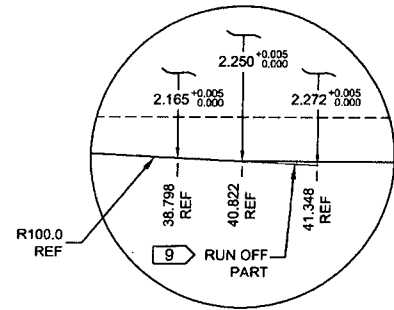
TURNING DETAIL



**DETAIL L:
CROSSTUBE CUFF**
D7-4
NOT TO SCALE



**DETAIL M:
CUFF TRANSITION**
D6-4
NOT TO SCALE



**DETAIL N:
TAPER RUN-OFF**
C3-4
NOT TO SCALE

DEO ATTACHED

RELEASED

DESIGN	08	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	08	DRAWING NO.	REV. C
MFG. APPR.	08	D407-667-145	SHEET 4 OF 4
APPROVED	08	TITLE	SCALE
DE APPR.	08	CROSSTUBE ASS'Y (407 HIGH FWD)	NTS
DATE	08.11.06	<small>COPYRIGHT © 2002 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

DRAWING NO. D407-667-145	TITLE CROSSTUBE ASS'Y (407 HIGH FWD)	REV. C	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D407-667-145-C-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>q</i>	CHECKED <i>ASS</i>	MFG. APPR. <i>IB</i>	APPROVED <i>WD</i>		DE APPR. <i>W</i>		
DATE 11.07.15	DATE 11.07.22	DATE 11.07.22	DATE 11/07/22		DATE 11.07.21		

PURPOSE:

REPLACE MAGNOBOND WITH PROSEAL.

CHANGE:

IS:

Item	Qty -145	Part Number	Description
9	A/R	PROSEAL 890 B-2	SEALANT, AMS-S-8802 CLASS B-2

WAS:

9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)
---	-----	----------------	---

NOTE 12 & 15, SHEET 1 IS AMENDED AS FOLLOWS:

IS:

- 12) TO INSTALL D2891-1 SUPPORT: ABRASE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. **PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.**

WAS:

- 12) INSTALL D2891-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

RELEASED
2011-07-28
WD

407-667-105 Folio

Setup

Use 1.6" spacers under 2.25 rollers

2.935" (2.875 + one .060 shim) for SA,, 2.995 (2.875 + two .060)shims for SB Spacer in buggy on large table/adjust supporting rollers as required.

19.25", **36.4" RED** from cuff, centerline is @ 56.6

LARGE TABLE

Run programs 407f 01-07 without stopping going down the taper, **36.4" line**, approaches are Y 3200 and W 1750. CHECK

Then run programs 407f 10-16 without stopping from **19.25" line**. "CHECK "approaches are Y 3500 and W 3200 for all programs running up taper, . Programs 17 and up are to finish tube off if necessary. CHECK between each program.. **Large table**

in order to reduce the height, increase cuff angle at program 7. tubes are still finishing too high. jw 11-08-26

- update: increased power on step 9 of prog 7 by 20 points. tubes are finishing at prog 19. height fixed.

12-08-01 after program 7 on both tubes, side "B" had bent in substantially more than side "A". approximately 4" more than the first side. tubes both turned out okay, but were watched closely on the second side.

13-02-14 Bent 2 as per folio.. (1-7 CHECK.. 10-16 CHECK).. ran 17, 18, 19, 20... checking between each, 1st tube finished on 20, 2nd finished on 19..... (run 18a if really close to finished tangent line) MO

1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16

Handwritten text, possibly a signature or date, including the number 27.



skyservice
Air travel. Evolved.

NDT Work Order

Sky Service F.B.O. Inc.

DOT APP 53-89 / EASA 145.7142 / BDA AMO 38

WO #: YYZ

70295

Customer: DART AEROSPACE

Dept: NDTYYZ

Reference: 26038

Make:

Model:

Reg:

A/C S/N:

TSN:

CSN:

TSO:

Tail#:

Task: ☒ Scheduled ☐ Unscheduled ☐ A.O.G. ☒ P.T. ☐ M.T. ☒ E.T. ☐ U.T. ☐ F

Work Required:

CARRY OUT NDT ON THE FOLLOWING ITEMS:

① ITEM ID = D206667-103RLC FWD CROSS TUBE

WORK ORDER ID'S - 124882, 124883

② ITEM ID = D407-667-105RLC FWD CROSS TUBE

WORK ORDER ID'S - 124886, 124887, 124888

③ ITEM ID = D4806-3 STUD - WORK ORDER ID 121492

Action Taken:

Date:

Initial/Stamp:

LIQUID PENETRANT AND EDDY CURRENT

INSPECTIONS CARRY OUT WHERE

07 OCT 2014

APPLICABLE ON ITEMS LISTED ABOVE

NO CRACKS FOUND

EDDY CURRENT = NORTEL 500S, S/N T-20656 CAL DUE - 30 JAN/

PENETRANT = ARDROX 970 P2SE

BATCH

023/2131

BLACK LIGHT = T-20990M

I certified that the maintenance described above has been performed with the applicable standard of airworthiness.

Signature:

ACA/SCA Stamp

Date:

Name:

GARY SMITH



07 OCT

2014



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO26038**

Purchase Order Date 10/7/2014

PO Print Date 10/7/2014

Page Number 3 of 3

Order From :

SKYSERVICE
6120 MIDFIELD ROAD
MISSISSAUGA, ONTARIO L5P 1B1
CANADA

VC-SKY001

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 905-678-5636

Ship To Contact

Ship To Phone

Ship Via: Delivered

Ship Acct:

Buyer

Customer POID

Customer Tax # 10127-2607

Terms Net 30

Currency CAD

FOB FCA - (Free Carrier)

Line Total: \$0.0

6	124887	D407-667-105RLC CROSSTUBE	10/7/2014	1.00	\$0.00	\$0.0
---	--------	------------------------------	-----------	------	--------	-------

Yes

10/7/2014

LIQUID PENETRANT INSPECTION AS PER QSI 038 OR
LPI AS PER ASTM 1417 LEVEL 2

Line Total: \$0.0

7	124888	D407-667-105RLC CROSSTUBE	10/7/2014	1.00	\$0.00	\$0.0
---	--------	------------------------------	-----------	------	--------	-------

Yes

10/7/2014

LIQUID PENETRANT INSPECTION AS PER QSI 038 OR
LPI AS PER ASTM 1417 LEVEL 2

Line Total: \$0.0

PO Total: \$0.0

Note: Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Change Nbr:

2

Change Date: 10/7/2014